

Materials List for:

# Immobilization of Live *Caenorhabditis elegans* Individuals Using an Ultra-thin Polydimethylsiloxane Microfluidic Chip with Water Retention

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URL: <https://www.jove.com/video/59008>

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## Materials

Name	Company	Catalog Number	Comments
<i>C. elegans</i> wild-type strain	AGC Techno Glass Co., Ltd., Shizuoka, Japan).	1010-060	Non-treated dish used in incubation of <i>C. elegans</i> in Protocol 1
<i>C. elegans unc-119(e2498) III</i> mutant strain	AGC Techno Glass Co., Ltd., Shizuoka, Japan).	1010-035	Non-treated dish used in locomotion assays in Protocol 3
<i>C. elegans transgenic strain HBR4</i>	Biocosm, Inc., Hyogo, Japan	BCM17-0001	Microfluidic chip with 25 straight 50/60- $\mu$ m width channels used in all experiments and observation in this paper
<i>E. coli</i> strain	Biocosm, Inc., Hyogo, Japan	BCM18-0001	Microfluidic chip with 20 straight 60 $\mu$ m-width channels. This is suitable for adults 3-5 days after hatching at 20°C.
Worm Sheet IR (50/60)	Biocosm, Inc., Hyogo, Japan	BCM18-0002	Microfluidic chip with 20 straight 50 $\mu$ m-width channels. This is suitable for young adults ~3 days after hatching at 20°C.
Worm Sheet 60	Biocosm, Inc., Hyogo, Japan	Lumirror T60 (t 125 $\mu$ m)	PET film (thickness: 125 $\mu$ m) used in locomotion assays in Protocol 3
Worm Sheet 50	Caenorhabditis Genetics Center (CGC), Minnesota, USA	N2	Wild-type <i>C. elegans</i> strain generally used in this study
MICRO COVER GLASS	Caenorhabditis Genetics Center (CGC), Minnesota, USA	CB4845	<i>C. elegans</i> strain only employed as an example of mutants with abnormal body shape
Polyester Film Lumiri	Caenorhabditis Genetics Center (CGC), Minnesota, USA	HBR4	The genotype of this transgenic <i>C. elegans</i> strain is HBR4:goels3[pmys-3::GCamp3.35:unc-54-3'utr, unc-119(+)]V. This strain was only employed for imaging observation.
Polystyrene Film	Caenorhabditis Genetics Center (CGC), Minnesota, USA	OP50	<i>E. coli</i> strain used as food for <i>C. elegans</i> .
Gene Frames 25 $\mu$ l (1.0 x 1.0 cm)	CASIO COMPUTER Co., Ltd, Tokyo, Japan	EX-F1	Figure 1B, 1E, 1F, Figure 2A-C, and Video 1 were obtained by using this digital camera.
IWAKI 60 mm/non-treated dish	Genesee Scientific Corporation, CA, USA)	59-AWP	Platina picker specialized for picking up <i>C. elegans</i>
IWAKI 35 mm/non-treated dish	MATSUNAMI GLASS IND. LTD.	C030401	Cover glass (thickness: 130-170 $\mu$ m) used in locomotion assays in Protocol 3
Milli-Q	Merck, France		Ultrapure water
Kimwipe S-200	Microsoft Co. Ltd, Redmond, WA, USA	EXCEL	Software used for statistical analyses

WormStuff Worm Pick	Nippon Paper Creca Co., Ltd., Tokyo, Japan	62020	120 mm x 215 mm; 200 sheets/box
Research Stereo Microscope System	OLYMPUS CORPORATION, Tokyo, Japan	SZX16	Micriscope used in all experiments and observation in this paper
Motorized Focus Stand for SZX16	OLYMPUS CORPORATION, Tokyo, Japan	SZX2-ILLB	This was used for bright field observation in Protocol 3-8.
Objective Lens (×1)	OLYMPUS CORPORATION, Tokyo, Japan	SDFPLAPO1×PF	NA: 0.15; W.D.: 60 mm. This lends was used for bright field observation in Protocol 3-8.
Objective Lens (×2)	OLYMPUS CORPORATION, Tokyo, Japan	SDFPLAPO2XPFC	NA: 0.3; W.D.: 20 mm. This lends was used for imaging observations.
Mercury Light Source	OLYMPUS CORPORATION, Tokyo, Japan	U-LH100HG	The broad emission spectrum enables a range of fluorecence imaging experiments to be conducted using all common fluorophores.
SZX16 Fluorescent filter unit (High performance for CFP)	OLYMPUS CORPORATION, Tokyo, Japan	SZX2-FCFPHQ	Ex: 425–445 nm; Em: 460–510. This was used for imaging observation of HBR4 strain.
Digital Camera High Speet EXILIM	Thermo Fisher Scientific Inc., MA, USA)	AB-0576	100 frames and polystyrene coverslips (thickness:~130 μm)
Office 2013	TORAY INDUSTRIES, INC., Tokyo, Japan	BCM18-0001/ BCM18-0002	Bundled items of Worm Sheets. PS filim (thickness: 130 μm) used in locomotion assays in Protocol 3.